

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER



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basic imagery interpretation report

# Shanghai Guided Missile Production Plant Minhang (S)

STRATEGIC WEAPONS INDUSTRIAL FACILITIES

CHINA

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INSTALLATION OR ACTIVITY NAME					COUNTRY
Shanghai Guided Missile Production Plant Minhang					CH
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
NA	31-00-17N 121-23-17E				
MAP REFERENCE					
DMA. USATC, Series 200, Sheets 0492-2 and 0492-7, scale 1:200,000 (UNCLASSIFIED)					
DMA. Series ONC, Sheet H-12, ed 5, scale 1:1,000,000 (UNCLASSIFIED)					
LATEST IMAGERY USED			NEGATION DATE (If required)		
NA			NA		

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### ABSTRACT

1. (S/WN) This report provides a detailed analysis of the Shanghai Guided Missile Production Plant Minhang in China, the primary final assembly plant for Chinese space launch vehicles. The report includes a description of the facility and an overview of the plant's function and association with other facilities in the area. Information is current as of [redacted] This report, which is the first NPIC basic imagery interpretation report on this facility, includes a location map, two photographs, and a table of mensural data.

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### INTRODUCTION

2. [redacted] Shanghai Guided Missile Production Plant Minhang is the final assembly plant for Chinese space launch vehicles (SLVs). The Chinese refer to this plant as the Xinzhonghua Machinery Factory and have openly acknowledged its function.<sup>1</sup> The CSL-2 is produced at this plant; the Long March 3 will probably be produced here in the future. The CSL-2 is the SLV version of the two-stage CSS-4 ICBM. The Long March 3 will be a three-stage SLV consisting of the CSL-2 with an additional cryogen-propelled, high-energy third stage.<sup>2</sup> Only final assembly is performed at the Xinzhonghua plant; the other phases of production are performed at other plants in the Shanghai area.

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3. (S/WN) The Shanghai area is the center of the Chinese space industry. All of the major plants involved in the production of SLVs are in this area. The other known space program-related facilities in the Shanghai area (Figure 1) are as follows: Shanghai Satellite Test and Production Facility Minhang (BE [redacted] Songjiang Guided Missile Production Plant [redacted] Wuxing Missile Propulsion Research and Development (R&D) Center [redacted] and the Xinxin Machinery Factory, which has not been confirmed on imagery.<sup>3</sup>

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4. [redacted] The Shanghai area has been associated with SLV production since the late 1960s. [redacted]

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### BASIC DESCRIPTION

5. (S/WN) The Xinzhonghua factory is in the Shanghai suburb of Minhang, 11 nautical miles (nm) south-southwest of Shanghai City (Figure 1). The plant is wall secured and contains one high-bay, rail-served final assembly building; two multi-bay fabrication buildings; one rail siding with a railcar shelter; and over 30 other support buildings (Figure 2 and Table 1). The total production floorspace is 28,303 square meters. The final assembly building is air conditioned. A photograph of a CSL-2 released by the Chinese in 1980 was probably taken inside this final assembly building (Figure 3).

area C. Area A is now targeted as Shanghai Satellite Test and Production Facility Minhang. The Chinese name for that facility is the Huayin Machinery Factory, and the Chinese have openly acknowledged its function.<sup>3</sup> Area B is an industrial area immediately north of the Xinzhonghua factory. Area D is a part of Shanghai Steam Turbine Plant Minhang. There is no imagery-derived evidence that either areas B or D are involved in SLV production. However, the Xinzhonghua factory may not be the only plant in Minhang involved in SLV production. It is likely that components or subsystems for the CSL-2 are produced at other plants in the area, even if such production is not their primary function.

6. (S/WN) The Xinzhonghua factory was formerly reported<sup>3</sup> as having four areas, designated areas A, B, C, and D. The plant described herein as the Xinzhonghua factory was formerly reported as

7. [redacted] The Xinzhonghua factory is believed to be the SLV assembly and

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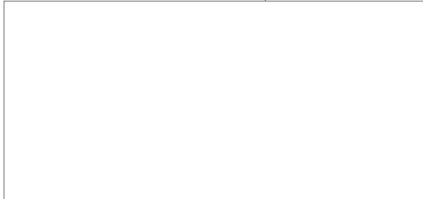
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checkout facility. Other functions in the production process are performed at other plants in the Shanghai area. These functions are probably distributed as follows.

- a. Songjiang Guided Missile Production Plant is probably where airframe components are produced. There are two reasons for this assessment.



Transporters of this type have been observed at both plants.

- b. Xinxin Machinery Factory is the Chinese name for a plant in Shanghai City where the rocket engines for the CSL-2 are produced. The engines are reportedly taken to the Xinzhonghua factory in crates.<sup>2</sup> The Chinese have taken foreign visitors to this factory and have openly acknowledged its function. According to a Japanese delegation which was taken to the plant, the Xinxin factory was formerly a British tobacco plant.<sup>3</sup>



- c. Wuxing Propulsion Research and Development Center is where product acceptance testing may be performed for rocket engines produced at the Xinxin factory. The Wuxing center contains one vertical rocket engine test stand suitable for testing liquid propellant engines up to ICBM and space booster size. It is the only ICBM-/space booster-sized rocket engine test facility in the Shanghai area.<sup>6</sup>

8. (TSR) After assembly at the Xinzhonghua factory, SLVs are shipped to the launch point in special trains consisting of two type C missile railcars (one for each of the two stages of the CSL-2) and one type B missile transfer flatcar (Figure 2). The departure of a missile train from the plant has served as a reliable indication of upcoming space launches. It has not yet been determined to what extent the recently constructed rail shelter will prevent observation of missile railcar arrivals and departures.



Although the rail shelter provides concealment, it may have been constructed simply for environmental protection.

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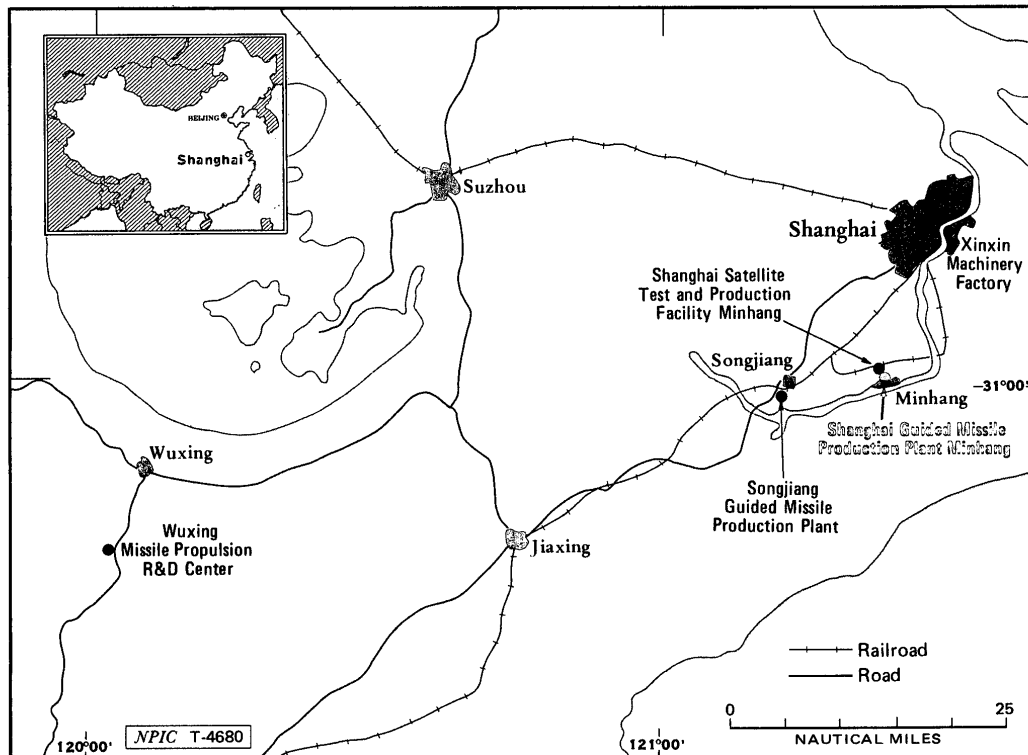


FIGURE 1. LOCATIONS OF SPACE LAUNCH VEHICLE PRODUCTION FACILITIES IN THE SHANGHAI AREA, CHINA

Table 1.  
Shanghai Guided Missile Production Plant Minhang  
(Items keyed to Figure 2)

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Item	Description/Function	Dimensions (m)		
		L	W	H
1	Support bldg			
2	Admin bldg			
3	Support bldg			
4	Support bldg			
5	Support bldg			
a	Sect			
b	Sect			
6	Support bldg			
7	Support bldg			
8	Poss heat plant			
9	Support bldg			
10	Shop			
a	Sect			
b	Sect			
c	Sect			
11	Guard shack			
12	Guard shack			
13	Support bldg			
14	Support bldg			
15	Support bldg			
a	Sect			
b	Sect			
16	Support bldg			
17	Support bldg			
18	Support bldg			
19	Support bldg			
20	Support bldg			
21	Support bldg			
22	Support bldg			
23	Support bldg			
a	Sect			
b	Sect			
c	Sect			
24	Support bldg			
25	Shop			
26	Support bldg			
27	Support bldg			
28	Fabrication bldg			
a	Sect			
b	Sect			
c	Sect			
d	Sect			
29	Poss furnace			
30	Forge/foundry			
31	Support bldg			
32	Support bldg			
a	Sect			
b	Sect			
33	Shop			
a	Sect			
b	Sect			
34	Fabrication bldg			
a	Sect			
b	Sect			
c	Sect			
35	Support bldg			
36	Support bldg			
a	Sect			
b	Sect			
37	Support bldg			
38	Support bldg			
39	Shop			
a	Sect			
b	Sect			
40	Support bldg			
41	Support bldg			
42	Support bldg			
43	Support bldg			
a	Sect			
b	Sect			
44	Support bldg			
a	Sect			
b	Sect			
45	Final assembly bldg			
a	Sect			
b	Sect			
c	Sect			
46	Railcar shelter			
47	Type C missile railcars (2)			
48	Type B missile transfer flatcar			

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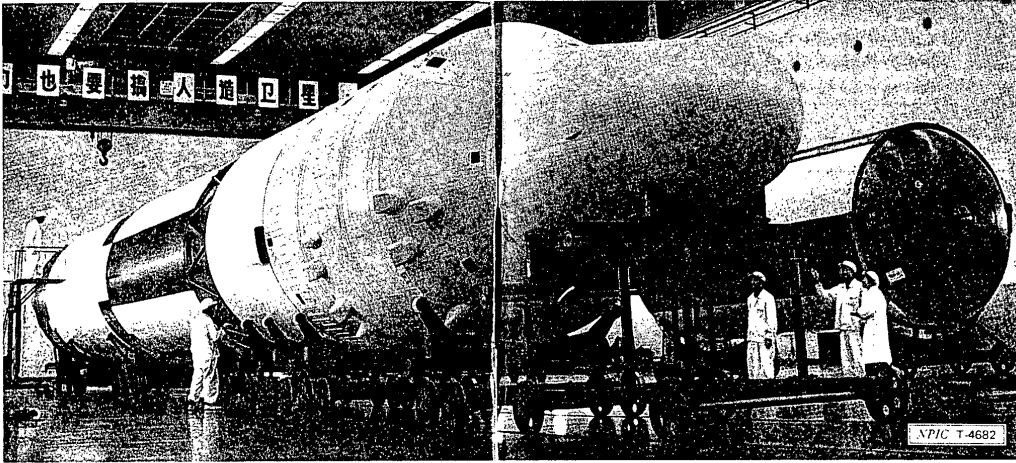


FIGURE 3. CSL-2 SPACE LAUNCH VEHICLE. Photograph derived from JIEFANGJUN HUABAO, (Liberation Army Pictorial), Beijing, No 1, 1980 (UNCLASSIFIED).

## REFERENCES

## IMAGERY

(S/WN) All available satellite imagery acquired through [ ] was used in the preparation of this report.

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## MAPS OR CHARTS

DMA. US Air Target Chart; Series 200, Sheets 0492-2 and 0492-7, scale 1:200,000 (UNCLASSIFIED)

DMA. Series ONC, Sheet H-12, ed 5, scale 1:1,000,000 (UNCLASSIFIED)

## DOCUMENTS

1. CIA. [ ] Long March III Booster, 16 Oct 80 (CONFIDENTIAL) [ ]
2. CIA. [ ] Xinxin Rocket Engine Factory; Booster Assembly Facility, 20 Aug 79 (CONFIDENTIAL)
3. DoD. 2 722 0045 80, Department of Defense Intelligence Information Report - Visit to CH Aerospace-related Institutions by JA Delegation, 13 Mar 80 (CONFIDENTIAL)
4. CIA. FIR-311/00367-76; Intelligence Information Report - Description of Rocket Stage Construction Activities in the Shanghai Boiler Plant and the Shanghai Steam Turbine Plant, 18 Mar 76 (SECRET)
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6. NPIC. [ ] RCA-09/0029/79, Wuxing (Wu-hsing) Missile Propulsion R&D Center (S), Dec 79 (TOP SECRET) [ ]

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\*Extracted material is classified SECRET, [ ]

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## RELATED DOCUMENT

NPIC. [ ] PIR-042/78, Probable Space-Launch Association of Shang-hai Missile Production Complex, PRC (S), Oct 78 (TOP SECRET) [ ]

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## REQUIREMENT

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(S) Comments and queries regarding this report are welcome. They may be directed to [ ] Asian Forces Division, Imagery Exploitation Group, NPIC, [ ]

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